## RECEIVED

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TECH CENTER 1600/2900



## SEQUENCE LISTING

<110> Lip Land Dasa
Wagner, Richard W
Kuimelis, Robert G

<120> PROTEIN SCAFFOLDS FOR ANTIBODY MIMICS AND OTHER BINDING PROTEINS

<130> 50036/021004

<140> US 09/688,566

<141> 2000-10-16

<150> US 60/111,737

<151> 1998-12-10

<150> US 09/456,693

<151> 1999-12-09

<150> US 09/515,260

<151> 2000-02-29

<160> 202

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atttcctcct gt
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Ala Gln Thr Gly His His Leu His Asp Lys
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Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys Pro
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Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg Gly Asp
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Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg Thr
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Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Leu Val Gln Glu Phe
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Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys Pro
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Gly Val Asp Tyr Asn Thr Ile Thr Gly Tyr Ala Val Thr Thr Tyr
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Arg Thr Arg Ile Asp Lys Gln Pro Ile Ser Ile Asn Tyr Arg Thr
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Arg Ile Thr Tyr Gly Glu Lys Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Glu Leu Asn Pro Thr Ala Thr Ile Ser Arg Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gln Asn Gly Thr
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Pro Arg Arg His Leu Arg Pro Asn Phe His
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Gly Leu Leu Ile Ser Trp Asn Lys Ser Arg Met Thr Thr Arg Tyr Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Val Thr Asp Ser Thr Ala Thr Ile Ser Gly Leu Lys Pro
                        55
                                            60
Gly Val Asp Tyr Asn Thr Ile Ile Val His Ala Val Thr Leu Thr Asn
                                        75
Gln Asn Ser Asp His Thr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr
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<213> Homo sapien
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Val Ser Asp Val Pro Arg Asp Leu Asp Val Val Ala Ala Thr Pro Thr
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Ser Leu Leu Ile Ser Trp Asp Ser Ser His Arg Tyr Tyr Arg Ile Thr
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                                                     30
Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe Thr Ala Pro
                            40
Asn Asn Pro Pro Thr Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp
                        5.5
                                            60
Tyr Thr Ile Thr Val Tyr Ala Val Thr Pro Asp Gly Ser Arg His Met
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Leu Thr Lys Pro Ile Ser Ile Asn Tyr Arg Thr

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<213> Homo sapiens
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                                25
Arg Ser Ala Asn Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Val Phe
                            40
                                                45
Thr Val Pro Gln Arg Arg Gln Thr Ala Thr Ile Ser Gly Leu Lys Pro
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Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Pro Lys Asn Gln
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Gly Arg Arg Gln Gly Ile Arg
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Ser Leu Leu Ile Ser Trp Arg Thr Pro Ala Ser Pro His Gly Tyr Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Glu Glu Phe
                            40
Thr Val Pro Leu Leu Trp Pro Thr Ala Thr Ile Ser Gly Leu Lys Pro
                        55
                                            60
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Pro Thr His Met
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                    70
Leu Lys Pro Gln Ser Met Pro Ile Ser Ile Asn Tyr Arg Thr
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                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Glu Glu Phe
                            40
Thr Val Pro Leu Leu Trp Pro Thr Ala Thr Ile Ser Gly Leu Lys Pro
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Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Pro Thr His Met
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                    70
                                        75
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Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Gly Leu Phe Ser Thr Ala Thr Ile Ser Gly Leu Asn Pro
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Pro Lys Glu Thr
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Ser Asn Ile Phe Ile Ala Pro Ile Ser Ile Asn Tyr Arg Thr
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Cys Leu Leu Ile Ser Trp Arg Pro Asn Pro Arg Leu Ser Arg Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Gly Leu Phe Ser Thr Ala Thr Ile Ser Gly Leu Lys Pro
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Pro Lys Glu Thr
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Ser Asn Ile Phe Ile Ala Pro Ile Ser Ile Asn Tyr Arg Thr
<210> 43
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Val Ser Asp Val Pro Arg Asp Pro Glu Val Val Ala Ala Thr Pro Thr
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Ser Leu Leu Ile Ser Trp Asp Pro Asn Ile Arg Leu Arg Arg Tyr Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Gly Phe Phe Ser Thr Ala Thr Ile Ser Gly Leu Lys Pro
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Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ala Ser Arg Asn
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Glu Asp Thr Arg Phe Gly Pro Ile Ser Ile Asn Tyr Arg Thr
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Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
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Thr Val Pro Phe Arg Met Lys Thr Ala Thr Ile Ser Gly Leu Lys Pro
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                                             60
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Ile Thr Pro Pro Asp Lys
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Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Ser
                            40
Thr Val Pro Pro Trp Ala Thr Thr Ala Thr Ile Ser Gly Leu Lys Pro
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Gly Val Asp Tyr Thr Ile Ala Val Tyr Ala Val Thr Asp Thr Gly Tyr
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Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
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Thr Val Pro Pro Trp Ala Thr Thr Ala Ala Ile Ser Gly Leu Lys Pro
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                                25
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Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Arg Thr Ala Thr Ile Ser Gly Leu Lys Pro
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Asp Tyr Ser Asp
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Phe Ser Gln Val His Thr Pro Asn Ser Ile Asn Tyr Arg Thr
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Ser Arg Leu Ile Ser Trp Arg Pro Gly Arg Thr Tyr Ser Arg Tyr Arg
Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe Thr
        35
                            40
Val Pro Pro Trp Ala Asn Thr Ala Thr Ile Ser Gly Leu Lys Pro Gly
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Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Pro Leu Pro Ile Pro
Thr Leu Val His Gly Pro Ile Ser Ile Asn Tyr Arg Thr
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Ser Arg Leu Ile Ser Trp Ala Ser Pro Pro Met Trp Cys Arg Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Gly Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Thr Thr Ala Thr Ile Ser Gly Leu Lys Pro
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Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Glu Tyr Leu Pro
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Glu Trp Asn Met Thr Gln Pro Ile Ser Ile Asn Tyr Arg Thr

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Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Thr Thr Ala Thr Ile Ser Gly Leu Lys Pro
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Gly Val Asp Tyr Thr Ile Thr Met Tyr Ala Val Thr Glu Tyr Leu Pro
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Glu Trp Asn Met Thr Gln Pro Ile Ser Ile Asn Tyr Arg Thr
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Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe Thr
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Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro Gly
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Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Asp Lys Ser Asp Thr
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Tyr Lys Tyr Asp Asp Pro Ile Ser Ile Asn Tyr Arg Thr
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Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro
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Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ser Ala Thr Arg
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Thr Val Lys Arg Asp Pro Ile Ser Ile Asn Tyr Arg Thr
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Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro
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Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Glu Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro
                        55
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                                        75
                    70
Arg Leu Asp Thr Arg Tyr Pro Ile Ser Ile Asn Tyr Arg Thr
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            20
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro
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Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Lys Glu Pro Gln
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Arg His Ala Leu Val Thr Pro Ile Ser Ile Asn Tyr Arg Thr
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Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
                                                 45
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro
                        55
                                            60
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Glu Thr Pro Ser
                    70
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Thr Lys Pro His Asn Val Pro Ile Ser Ile Asn Tyr Arg Thr
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                                25
                                                     30
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
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Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe Thr
        35
                            40
Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Gly Gly Leu Lys Pro Gly
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Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ala Gln Thr Gly His
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His Leu His Asp Lys Pro Ile Ser Ile Asn Tyr Arg Ser

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Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Gly Gly Leu Lys Pro
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ala Gln Thr Gly
                    70
His His Leu His Asp Glu Pro Ile Ser Ile Asn Tyr Arg Thr
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Ser Leu Leu Ile Ser Trp Asp Ile Ser Arg Tyr Lys His Arg Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asp Ser Pro Val Gln Glu Phe
                            40
Thr Ala Pro Pro Trp Ala Ser Ile Ala Thr Ile Gly Gly Leu Lys Pro
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ala Gln Thr Gly
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His His Leu His Asp Lys Pro Ile Ser Ile Asn Tyr Arg Thr
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Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
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Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Thr Ile Gly Gly Leu Lys Pro Gly
Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ala Gln Thr Gly His
```

85

His Leu His Asp Lys Pro Ile Ser Ile Asn Tyr Arg Thr

```
<210> 62
<211> 94
<212> PRT
<213> Homo sapiens
<400> 62
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
                                    10
Ser Arg Leu Ile Cys Trp Arg Pro Thr Ser Asn Pro Pro Arg Tyr Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Gly Gly Leu Lys Pro
                        55
                                             60
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ala Gln Thr Gly
                    70
                                         75
His His Leu His Asp Lys Pro Ile Ser Ile Asn Tyr Arg Thr
                85
<210> 63
<211> 94
<212> PRT
<213> Homo sapiens
<400> 63
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
                                    10
Ser Arg Leu Ile Ser Trp Arg Pro Thr Ser Asn Pro Pro Arg Tyr Tyr
                                2.5
Arg Ile Ser Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Gly Gly Leu Lys Pro
                        55
                                             60
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ala Gln Thr Gly
                    70
His His Leu His Asp Lys Pro Ile Ser Ile Asn Tyr Arg Thr
<210> 64
<211> 94
<212> PRT
<213> Homo sapiens
<400> 64
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
                                    10
Ser Gln Leu Ile Ser Trp Lys Thr Thr Asn Pro Thr Ala Arg Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Thr Ile Ala Thr Ile Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Asn Leu Thr Thr
                    70
Arg Arg Arg His Arg Ala Pro Ile Ser Ile Asn Tyr Arg Thr
```

```
<210> 65
<211> 94
<212> PRT
<213> Homo sapiens
<400> 65
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
1
                                    10
Ser Arg Leu Ile Ser Trp Thr Thr Arg His Ser Pro Val Arg Tyr Tyr
            20
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Ile Val Pro Pro Trp Ala Thr Thr Ala Thr Ile Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Met Pro Thr Asn
                    70
Trp Arg Phe Pro His Arg Pro Ile Ser Ile Asp Tyr Arg Thr
                                    90
<210> 66
<211> 90
<212> PRT
<213> Homo sapiens
<400> 66
Val Ser Asp Val Pro Arg Asp Leu Glu Ala Val Ala Ala Thr Pro Thr
1
                                    10
Ser Leu Leu Ile Arg Glu Arg Glu Arg Arg Tyr Tyr Arg Ile Thr Tyr
                                25
Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Gly
                            40
Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Glu Pro Gly Val Asp Tyr
   50
                        55
Thr Ile Thr Val Tyr Ala Val Thr Pro His His Gly His Phe Asp Leu
                    70
Glu Leu Pro Ile Ser Ile Asn Tyr Arg Thr
                85
<210> 67
<211> 94
<212> PRT
<213> Homo sapiens
<400> 67
Val Ser Asp Val Pro Arg Asp Leu Glu Gly Val Ala Ala Thr Pro Thr
1
                                    10
Ser Leu Leu Ile Ser Arg Lys Asp Arg Val Ser Ser Arg Arg Tyr Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
Thr Val Pro Gly Ser Lys Ser Thr Ala Ile Ile Ser Gly Leu Lys Pro
Gly Val Asp Tyr Thr Ile Thr Ala Tyr Val Val Thr Pro His His Gly
```

His Phe Asp Leu Glu Leu Pro Ile Ser Ile Asn Tyr Arg Thr

```
<210> 68
<211> 95
<212> PRT
<213> Homo spiens
<400> 68
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
Ser Leu Leu Ile Ser Trp His Met Ala Thr Pro Asn Thr Arg Tyr Tyr
                                25
Arg Thr Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys Pro
                        55
                                             60
Gly Val Asp Tyr Asn Thr Asn Thr Val Tyr Ala Val Thr Ser Val Asn
                                        75
Ala Phe Pro Tyr Glu Gly Met Pro Ile Ser Ile Asn Tyr Arg Thr
<210> 69
<211> 94
<212> PRT
<213> Homo sapiens
<400> 69
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Ala Thr
                 5
                                    10
Ser Leu Leu Ser Ser Trp Tyr Leu Cys Thr Gly Asn Asn Arg Asp Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Ala Phe
                            40
Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys Pro
                        55
                                            60
Gly Val Asp Tyr Ile Pro Ser Arg Cys Met Leu Ser Leu Ala Ser Leu
                    70
                                        75
Met Ser Thr Arg Asn Lys Pro Ile Ser Ile Asn Tyr Arg Thr
<210> 70
<211> 94
<212> PRT
<213> Homo sapiens
<400> 70
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
                 5
                                    10
Ser Leu Leu Ile Ser Trp Arg Thr Pro Ala Ser Pro His Gly Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Glu Glu Phe
                            40
Thr Val Pro Leu Leu Trp Pro Thr Ala Thr Ile Ser Gly Leu Lys Pro
                        55
                                             60
Gly Val Asp Tyr Ala Ile Thr Val Tyr Ala Val Thr Pro Thr His Met
                    7.0
                                        75
Leu Lys Pro Leu Ser Met Pro Ile Ser Ile Asn Tyr Arg Thr
```

```
<210> 71
<211> 93
<212> PRT
<213> Homo sapiens
<400> 71
Ile Ser Asp Val Pro Arg Asp Met Glu Val Val Ala Ala Thr Pro Thr
1
                                    10
Ser Leu Leu Ile Ser Trp Asn Met Ala His Pro His Asp Arg Asn Tyr
            20
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Ser
                            40
Thr Val Pro Arg Tyr Leu Ser Thr Ala Thr Ile Ser Gly Pro Lys Arg
                        55
Val Asp Tyr Thr Ile Ile Val Tyr Ala Val Asn Gln Pro Thr Val Ser
                    70
Ala His Asn His Ala Pro Ile Ser Ile Asn Tyr Arg Thr
<210> 72
<211> 93
<212> PRT
<213> Homo sapiens
<400> 72
Val Ser Asp Val Pro Arg Asp Leu Lys Val Val Ala Ala Thr Pro Thr
1
Ser Leu Leu Ile Ser Trp Phe Pro Asp Asn Ala Thr Pro Arg Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Leu Phe Thr Thr Ala Thr Ile Ser Gly Leu Lys Pro Gly
Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ser His Arg Asp Tyr
His Ser Thr Gly Arg Pro Ile Ser Ile Asn Tyr Arg Thr
                85
<210> 73
<211> 95
<212> PRT
<213> Homo sapiens
<400> 73
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
1
Ser Leu Leu Ile Ser Trp Met Leu Leu Arg Asp Asp Arg Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Thr Phe His Pro Thr Ala Thr Ile Ser Gly Arg Lys Pro
Gly Val Asp Tyr Asn Thr Ile Thr Val Tyr Ala Val Thr Gln Ser Thr
                                        75
```

Asn Gly Asn Arg Asn Asp Phe Pro Ile Ser Ile Asn Tyr Arg Thr

```
<210> 74
<211> 94
<212> PRT
<213> Homo sapiens
<400> 74
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
1
                                    10
Ser Leu Leu Ile Ser Trp Ser Pro Pro Asn Asp Ala His Arg Tyr Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Asn Thr Val Tyr Ala Val Thr Asp Gln Gln Ser
                    70
                                        7.5
Tyr Thr Tyr Tyr Ser Asn Pro Ile Ser Ile Asn Tyr Arg Thr
<210> 75
<211> 94
<212> PRT
<213> Homo sapiens
<400> 75
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
                                    10
Ser Leu Val Ile Ser Trp Ser Pro Pro Asn Asp Ala His Arg Tyr Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Asn Thr Val Tyr Ala Val Thr Asp Gln Gln Ser
                                        75
Tyr Thr Tyr Tyr Ser Asn Pro Ile Ser Ile Asn Tyr Arg Thr
<210> 76
<211> 92
<212> PRT
<213> Homo sapiens
<400> 76
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
                                    10
Ser Leu Leu Ile Ser Trp Ser Pro Pro Asn Asp Ala His Arg Tyr Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Thr Thr Ala Thr Ile Ser Gly Leu Lys Pro
                        55
                                            60
Gly Val Asp Tyr Thr Ile Thr Val Tyr Thr Met Pro Thr Asn Trp Arg
                    70
                                        75
```

Phe Pro His Arg Pro Ile Ser Ile Asn Tyr Arg Thr

```
<210> 77
<211> 94
<212> PRT
<213> Homo sapiens
<400> 77
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
                                    10
Ser Gln Leu Ile Ser Trp Thr Thr Arg His Ser Pro Val Arg Tyr Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Thr Thr Ala Thr Ile Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Met Pro Thr Asn
                    70
                                        75
Trp Arg Phe Pro His Arg Pro Ile Ser Ile Asn Tyr Arg Thr
<210> 78
<211> 94
<212> PRT
<213> Homo sapiens
<400> 78
Val Ser Asp Val Pro Arg Asp Leu Glu Ile Val Ala Ala Thr Pro Thr
                5
                                    10
Ser Arg Leu Ile Ser Trp Asn Arg Ser Gly Leu Gln Ser Gly Tyr Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Thr Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ser Asn Val Gly
                    70
                                        75
Arg Leu Asp Thr Arg Tyr Pro Ile Ser Thr Asn Tyr Arg Thr
<210> 79
<211> 93
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> 17, 30, 34
<223> Xaa = Any Amino Acid
<400> 79
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
                                     10
Xaa Arg Leu Ile Ser Trp Asn Arg Ser Gly Leu Gln Ser Xaa Tyr Tyr
                                25
Arg Xaa Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Ile Ser Gly Leu Lys Pro Gly
```

Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ser Asn Val Gly Arg 65 70 75 80 Leu Asp Thr Arg Tyr Pro Ile Phe Ile Asn Tyr Arg Thr 85 90

<210> 80

<211> 76

<212> PRT

<213> Homo sapiens

<400> 80

Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr 1 5 10 15

Ser Arg Leu Ile Ser Trp Asn Arg Ser Gly Leu Gln Ser Arg Tyr Tyr 20 25 30

Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe 35 40 45

Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro 50 55 60

Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr 65 70 75

<210> 81

<211> 94

<212> PRT

<213> Homo sapiens

<400> 81

Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr 1 5 10 15

Ser Arg Leu Ile Ser Trp Asn Arg Ser Gly Leu Gln Ser Arg Tyr Tyr 20 25 30

Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe 35 40 45

Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro 50 55 60

Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Asp Lys Ser Asp 65 70 75 80

Thr Tyr Lys Tyr Asp Asp Pro Ile Ser Ile Asn Tyr Arg Thr 85 90

<210> 82

<211> 94

<212> PRT

<213> Homo sapiens

<400> 82

Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr 1 5 10 15

Ser Arg Leu Ile Ser Cys Asn Arg Ser Gly Leu Gln Ser Arg Tyr Tyr 20 25 30

Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe 35 40 45

Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro 50 55 60

Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Asp Lys Ser Asp

```
70
                                                             80
Thr Tyr Lys Tyr Asp Asp Pro Ile Ser Ile Asn Tyr Arg Thr
                85
                                     90
<210> 83
<211> 94
<212> PRT
<213> Homo sapiens
<400> 83
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
Ser Arg Leu Ile Ser Trp Asn Arg Ser Gly Leu Gln Ser Arg Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Ser Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Pro Thr His Asn
                    70
Trp Asn Asp Gln Thr Arg Ser Ile Ser Ile Asn Tyr Arg Thr
<210> 84
<211> 94
<212> PRT
<213> Homo sapiens
<400> 84
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
Ser Arg Leu Ile Ser Trp Arg Pro Thr Ser Asn Pro Pro Arg Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Gly Gly Leu Lys Pro
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ala Gln Thr Gly
                    70
Tyr His Leu His Asp Lys Pro Ile Ser Ile Asn Tyr Arg Thr
                85
<210> 85
<211> 93
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> 28, 51, 82
<223> Xaa = Any Amino Acid
<400> 85
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Pro Thr Ser
                                     10
Arg Leu Ile Ser Trp Arg Pro Gly Arg Thr Tyr Xaa Arg Tyr Tyr Arg
```

```
20
Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe Thr
                            40
Val Pro Xaa Trp Ala Asn Thr Ala Thr Ile Ser Gly Leu Lys Pro Gly
                        55
                                            60
Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Phe Pro Pro Gly Tyr
                    70
                                        75
Pro Xaa Thr Glu Met Pro Ile Ser Ile Asn Tyr Arg Thr
<210> 86
<211> 92
<212> PRT
<213> Homo sapiens
<400> 86
Ile Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
1
Ser Leu Leu Ile Ser Trp Arg Arg Trp Pro His Phe Asp Arg Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Thr Ile Ala Thr Ile Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Asn Pro Leu Ser
                    70
Pro Thr Thr Leu His Pro Pro Ile Asn Tyr Arg Thr
                85
<210> 87
<211> 94
<212> PRT
<213> Homo sapiens
<400> 87
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
Ser Arg Leu Ile Ser Trp Lys Pro Arg Arg Thr Asn Thr Arg Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Gly Thr Ile Ala Thr Ile Asn Gly Leu Lys Pro
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Leu Gly Thr Gly
                    70
Val Tyr Thr Arg Ala Gln Pro Ile Ser Ile Asn Tyr Arg Thr
                85
<210> 88
<211> 94
<212> PRT
<213> Homo sapiens
```

Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr

<400> 88

```
Ser Gln Leu Ile Ser Trp Pro Phe Gly Trp Tyr Pro Ser Arg Tyr Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Arg Thr Ala Thr Ile Ser Gly Leu Lys Pro
                        55
                                            60
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr His Phe Pro Glu
                    70
                                        75
Ser Arg Arg Pro Ala Lys Pro Met Ser Ile Asn Tyr Arg Thr
<210> 89
<211> 94
<212> PRT
<213> Homo sapiens
<400> 89
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
1
Ser Leu Leu Ile Ser Trp His Thr Glu Arg Ser Phe Pro Arg Tyr Tyr
            20
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
        35
                            40
Thr Val Pro Pro Trp Gly Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Glu His Tyr Arg
                    70
Asp Thr Gly Thr Gly His Pro Ile Pro Ile Asn Tyr Arg Thr
                85
<210> 90
<211> 94
<212> PRT
<213> Homo sapiens
<400> 90
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
1
                                    10
Ser Leu Leu Ile Ser Trp His Thr Glu Arg Ser Phe Pro Arg Tyr Tyr
                                                     30
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Gly Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Glu His Tyr Arg
65
                    70
Asp Thr Gly Thr Gly His Pro Ile Pro Ile Asn Tyr Arg Thr
                85
<210> 91
<211> 94
```

<212> PRT

<213> Homo sapiens

<400> 91

Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr

<210> 93 <211> 94 <212> PRT <213> Homo sapiens

<210> 94 <211> 94 <212> PRT <213> Homo sapiens

```
      Val
      Ser
      Asp
      Val
      Pro
      Arg
      Asp
      Leu
      Glu
      Val
      Val
      Ala
      Ala
      Thr
      Pro
      Thr
      Thr
      15
      Thr
      10
      Thr
      10
      Ser
      Ala
      Ala
      Ala
      Thr
      Pro
      Thr
      Thr
      10
      Leu
      Gln
      Ser
      Arg
      Tyr
      Tyr</
```

<210> 95

<211> 94

<212> PRT

<213> Homo sapiens

<400> 95

 Val
 Ser
 Asp
 Val
 Val
 Val
 Ala
 Ala
 Thr
 Pro
 Thr
 Thr
 10
 10
 15
 Thr
 Thr
 15
 Thr
 10
 10
 15
 Thr
 Thr
 15
 Thr
 10
 10
 15
 Thr
 Thr
 15
 Thr
 10
 10
 15
 Thr
 Thr
 Thr
 10
 10
 15
 Thr
 Thr
 Tyr
 Tyr

<210> 96

<211> 94

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> 40

<223> Xaa = Any Amino Acid

<400> 96

 Val
 Ser
 Asp
 Val
 Pro
 Arg
 Asp
 Leu
 Glu
 Val
 Val
 Ala
 Ala
 Thr
 Pro
 Thr

 Ser
 Leu
 Leu
 Ile
 Ser
 Trp
 Asp
 Thr
 His
 Asn
 Ala
 Tyr
 Asn
 Gly
 Tyr
 T

```
<211> 94
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> 13, 21
<223> Xaa = Any Amino Acid
<400> 97
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Xaa Thr Pro Thr
1
Ser Leu Leu Ile Xaa Trp Thr Arg Thr Asn Ala Asn Thr Arg Tyr Tyr
            20
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Ala Pro Asn Asn Pro Pro Thr Ala Thr Ile Gly Gly Leu Lys Pro
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Pro Asp Gly Ser
                    70
Arg His Met Leu Thr Lys Pro Ile Ser Ile Asn Tyr Arg Thr
                85
<210> 98
<211> 94
<212> PRT
<213> Homo sapiens
<400> 98
Leu Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
1
Ser Arg Leu Ile Ser Trp Asn Arg Ser Gly Leu Gln Ser Arg Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Ala Ile Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Asp Lys Ser Asp
                    70
Thr Tyr Lys Tyr Asp Asp Pro Ile Ser Ile Asn Tyr Arg Thr
                8.5
<210> 99
<211> 94
<212> PRT
<213> Homo sapiens
<400> 99
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
Ser Arg Leu Ile Ser Trp Asn Arg Ser Gly Leu Gln Ser Arg Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Leu
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro
    50
                        55
```

<210> 97

Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Asp Lys Ser Asp 65 70 75 80

Thr Tyr Lys Tyr Asp Asp Pro Ile Ser Ile Asn His Arg Thr 85 90

<210> 100

<211> 94

<212> PRT

<213> Homo sapiens

<400> 100

Ser Arg Leu Ile Ser Trp Asn Arg Ser Gly Leu Gln Ser Arg Tyr Tyr 20 25 30

Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe 35 40

Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys His 50 60

Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Asp Lys Ser Asp 65 70 75 80

Thr Tyr Lys Tyr Asp Asp Pro Ile Ser Ile Asn Tyr Arg Thr
85 90

<210> 101

<211> 94

<212> PRT

<213> Homo sapiens

<400> 101

Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr 1 5 10 15

Ser Arg Leu Ile Ser Trp Asn Arg Ser Gly Leu Gln Ser Arg Tyr Tyr 20 25 30

Arg Ile Thr Tyr Gly Glu Thr Glu Gly Asn Ser Pro Val Gln Glu Phe  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Thr Val Pro Pro Trp Ala Ser Met Ala Thr Ile Ser Gly Leu Lys Pro 50 55 60

Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Asp Lys Ser Asp 65 70 75 80

Thr Tyr Lys Tyr Asp Asp Pro Ile Ser Ile Asn Tyr Arg Thr
85 90

<210> 102

<211> 94

<212> PRT

<213> Homo sapiens

<400> 102

Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr 1 5 10 15

Ser Arg Leu Ile Ser Trp Asn Arg Ser Gly Leu Gln Ser Arg Tyr Tyr 20 25 30

Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe 35 40 45

Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro

```
55
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Asp Lys Ser Asp
                    70
                                        75
Thr Tyr Lys Tyr Asp Asp Pro Thr Ser Ile Asn Tyr Arg Thr
               85
<210> 103
<211> 94
<212> PRT
<213> Homo sapiens
<400> 103
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
Ser Arg Leu Ile Ser Trp Asn Arg Ser Gly Leu Gln Ser Arg Tyr Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Ala Asp Lys Ser Asp
                    70
                                        75
Thr Tyr Lys Tyr Asp Asp Pro Ile Ser Ile Asn Tyr Arg Thr
                85
<210> 104
<211> 94
<212> PRT
<213> Homo sapiens
<400> 104
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
Ser Arg Leu Ile Ser Trp Asn Arg Ser Gly Leu Gln Ser Arg Tyr Tyr
                                25
```

<210> 105 <211> 94 <212> PRT <213> Homo sapiens

```
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Asp Gln Arg Asp
                    70
65
Thr Tyr Arg Tyr Asp Asp Pro Ile Ser Thr Asn Cys Arg Thr
                85
<210> 106
<211> 94
<212> PRT
<213> Homo sapiens
<400> 106
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
1
Ser Arg Leu Ile Ser Trp Arg Asn Ile Tyr Pro Ile Ala Arg Tyr Tyr
            20
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro
                        55
Gly Ala Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Asp Lys Ser Asp
65
                    70
Thr Tyr Lys Tyr Asp Asp Pro Ile Ser Ile Asn Tyr Arg Thr
                85
<210> 107
<211> 92
<212> PRT
<213> Homo sapiens
<220>
```

<221> VARIANT <222> 27 <223> Xaa = Any Amino Acid

<400> 107 Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Ala Thr 1 Ser Gln Leu Ile Ser Trp Pro Trp Pro Ser Xaa Pro Thr Arg Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Glu Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Pro Trp Ala Ser Thr Ala Thr Ile Ser Gly Ile Lys Pro Gly Val Asp Tyr Thr Ile Ala Val Tyr Ala Val Thr Met Pro Glu Arg 70 Lys Tyr Asp Lys Pro Ile Ser Ile Asn Tyr Arg Thr 85 90

<210> 108 <211> 94 <212> PRT <213> Homo sapiens <400> 108

<210> 109

<211> 94

<212> PRT

<213> Homo sapiens

<400> 109

 Val
 Ser
 Asp
 Val
 Pro
 Arg
 Asp
 Leu
 Glu
 Val
 Val
 Ala
 Ala
 Thr
 Pro
 Thr

 Ser
 Arg
 Leu
 Ile
 Ser
 Trp
 Arg
 Pro
 Gly
 Arg
 Thr
 Tyr
 Ser
 Arg
 Tyr
 Tyr

<210> 110

<211> 94

<212> PRT

<213> Homo sapiens

<400> 110

 Val
 Ser
 Asp
 Val
 Pro
 Arg
 Asp
 Leu
 Glu
 Val
 Val
 Ala
 Ala
 Thr
 Pro
 Ser

 Ser
 Arg
 Leu
 Ile
 Ser
 Trp
 Arg
 Pro
 Gly
 Arg
 Thr
 Tyr
 Ser
 Arg
 Tyr
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<210> 111

<211> 94

<212> PRT

<213> Homo sapiens

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<400> 111
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
Ser Arg Leu Ile Ser Trp Arg Pro Gly Arg Thr Tyr Ser Arg Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Asn Thr Ala Thr Ile Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Ile Thr Ala Tyr Ala Val Thr Tyr Thr His Ser
                    70
                                        75
Thr Pro Met Gln Asp Glu Pro Ile Ser Ile Asn Tyr Arg Thr
               85
<210> 112
<211> 94
<212> PRT
<213> Homo sapiens
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
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Ser Arg Leu Ile Ser Trp Asp Asn Ser Arg Pro Asn Thr Arg Tyr Tyr
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<210> 113 <211> 91 <212> PRT <213> Homo sapiens

<210> 114 <211> 92 <212> PRT <213> Homo sapiens <220> <221> VARIANT <222> 3, 18, 23 <223> Xaa = Any Amino Acid <400> 114 Val Ser Xaa Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr Ser Xaa Leu Ile Ser Trp Xaa Pro Arg Ser His His Asp Arg Tyr Tyr 25 Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe 40 Thr Val Pro Pro Trp Gly Thr Ile Ala Thr Ile Asp Gly Leu Lys Pro 55 Gly Val Gly Tyr Thr Val Thr Val Tyr Ala Val Thr Asp Asn Pro Asn 75 Ser Ala Lys Ala Gln His Pro Ile Asn Ser Arg Thr <210> 115 <211> 94 <212> PRT <213> Homo sapiens <400> 115 Val Ser Asp Val Pro Arg Asp Leu Glu Val, Val Val Ala Thr Pro Thr 10 Ser Gln Leu Ile Ser Trp Met Thr Pro His Asn His Val Arg Tyr Tyr 25 Gly Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Ser 40 Thr Val Pro Thr Gly Asn Ala Thr Ala Thr Ile Ser Gly Leu Lys Pro 55 Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Pro His His Gly 75 His Phe Asp Leu Glu Pro Pro Ile Ser Ile Asn Tyr Arg Thr <210> 116 <211> 94 <212> PRT <213> Homo sapiens <400> 116 Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Ser Thr 10 Gly Leu Leu Ile Ser Trp Arg Thr Pro Ala Ser Pro His Gly Tyr Tyr 25 Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Glu Glu Phe 40 Thr Val Pro Leu Leu Trp Pro Thr Ala Thr Ile Ser Gly Leu Lys Pro 55 60 Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Pro Thr His Met 70 75 Leu Lys Pro Gln Ser Met Pro Ile Ser Ile Asn Tyr Arg Thr

<210> 117 <211> 94 <212> PRT <213> Homo sapiens <400> 117 Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Ser Pro Pro Asn Asp Ala His Arg Tyr Tyr Arg Ile Thr Tyr Gly Lys Thr Gly Gly Asp Ser Pro Val Gln Glu Phe 40 Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys Pro 55 Gly Val Asp Tyr Thr Ser Val Val Tyr Ala Val Thr Asp Gln Gln Ser Tyr Thr Tyr Tyr Ser Asn Pro Ile Ser Ile Asn Tyr Arg Thr 85 <210> 118 <211> 94 <212> PRT <213> Homo sapiens <220> <221> VARIANT <222> 28 <223> Xaa = Any Amino Acid <400> 118 Val Ser Asp Val Pro Ser Asp Leu Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Glu Gln Ser Pro Thr Xaa Gly Arg Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe 40 Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Arg Lys Pro 55 60 Gly Ala Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ile Glu Lys Asp Arg Ile Pro Leu Phe Gly Pro Ile Ser Ile Ser Tyr Arg Thr <210> 119 <211> 94 <212> PRT <213> Homo sapiens <400> 119 Val Ser Asp Val Pro Ser Asp Leu Glu Val Val Ala Ala Thr Pro Thr 10 Ser Leu Leu Ile Ser Trp Glu Gln Ser Pro Thr Tyr Gly Arg Tyr Tyr 25 Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe 40 Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Arg Lys Pro Gly Ala Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ile Glu Lys Asp 70 75 80

Arg Ile Pro Leu Phe Gly Pro Ile Ser Ile Ser Tyr Arg Thr 85 90

<210> 120
<211> 94
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> 28
<223> Xaa = Any Amino Acid

<210> 121 <211> 94 <212> PRT <213> Homo sapiens

<210> 122 <211> 94 <212> PRT <213> Homo sapiens <400> 122

Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr 1 5 10 15

<210> 123 <211> 94 <212> PRT <213> Homo sapiens

<400> 123

 Val
 Ser
 Asp
 Val
 Pro
 Arg
 Asp
 Leu
 Glu
 Val
 Val
 Ala
 Ala
 Thr
 Pro
 Thr
 Thr
 10
 15
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 Thr
 Thr
 15
 Thr
 Ser
 Gly
 Leu
 Gln
 Ser
 Arg
 Tyr
 Tyr</

<210> 124 <211> 94 <212> PRT <213> Homo sapiens

<400> 124

 Val
 Ser
 Asp
 Val
 Val
 Val
 Ala
 Ala
 Thr
 Pro
 Thr
 Thr
 10
 10
 15
 Thr
 Thr
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<210> 125 <211> 94 <212> PRT <213> Homo sapiens <220> <221> VARIANT

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<223> Xaa = Any Amino Acid
<400> 125
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
Ser Arg Leu Ile Ser Trp Asn Arg Ser Gly Leu Gln Ser Arg Tyr Tyr
                                25
Arg Thr Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Ser Asn Val Gly
                    70
                                        75
Arg Leu Asp Thr Arg Xaa Pro Ile Ser Ile Asn Tyr Arg Thr
                85
<210> 126
<211> 94
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> 75
<223> Xaa = Any Amino Acid
<400> 126
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
                                    10
Ser Arg Leu Ile Ser Trp Arg Thr Met Pro Val Thr Ala Arg Tyr Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asp Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Ala Ile Ser Gly Leu Lys Pro
                        55
                                             60
Gly Ala Asp Tyr Thr Ile Thr Val Tyr Ala Xaa Thr Ser Ala Thr Pro
                    70
                                        7.5
Ser Arg Pro Asn Val His Pro Ile Ser Ile Asn Leu Thr Thr
                85
<210> 127
<211> 88
<212> PRT
<213> Homo sapiens
<400> 127
Val Ser Asp Val Pro Gly Asp Leu Glu Val Val Ala Ala Thr Pro Thr
                                    10
Ser Leu Leu Ile Gly Trp Ser Met Thr Pro Asn Trp Pro Arg Tyr Tyr
Arg Ile Ala Tyr Gly Glu Thr Gly Gly Asp Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Pro Trp Ala Ser Ile Ala Ile Ile Gly Gly Leu Lys Pro
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr His Arg Asp Thr
                    70
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<222> 86

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Pro Ile Ser Ile Asn Tyr Arg Thr 85
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<210> 128
<211> 90
<212> PRT
<213> Homo sapiens
<400> 128
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Ile
1
Ser Gln Leu Thr Ser Trp Gln Pro Gln Pro Asn Gly Ser Arg Tyr Tyr
            20
Arg Ile Ala Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Arg Glu Phe
                            40
Thr Val Pro Ala Arg Glu Gln Thr Ala Thr Ser Gly Leu Lys Pro Gly
                        55
                                            60
Val Asp Tyr Ala Ile Thr Val Tyr Ala Ala Thr His Gly Lys Pro Pro
                    70
His Ile His Phe Thr Ile Asn Tyr Arg Thr
                85
<210> 129
<211> 94
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> 2, 9, 12, 22
<223> Xaa = Any Amino Acid
<400> 129
Val Xaa Asp Val Pro Arg Asp Leu Xaa Val Val Xaa Ala Thr Pro Thr
1
Ser Leu Leu Ile Ser Xaa Arg Ser Gly Asn Arg Thr Thr Arg Tyr Tyr
            20
                                25
Arg Ile Thr Tyr Gly Asp Thr Gly Gly Asn Ser Pro Val Gln Glu Phe
                            40
Thr Met Pro Pro Trp Ala Thr Val Ala Ile Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Thr His Asn Ser
                    70
Thr Ala Gln Pro Glu Tyr Pro Ile Pro Phe Asn Arg Arg Thr
                85
<210> 130
<211> 94
<212> PRT
<213> Homo sapiens
<400> 130
Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr
```

Ser Arg Leu Ile Ser Trp Arg Pro Gly Arg Thr Tyr Ser Arg Tyr Tyr

Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe 40 Thr Val Pro Pro Trp Ala Asn Thr Ala Thr Ile Ser Cys Leu Lys Pro 55 60 Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Ala Phe Pro Pro Gly 70 75 Tyr Pro Leu Thr Glu Met Pro Ile Ser Ile Asn Tyr Arg Thr

<210> 131 <211> 94 <212> PRT

<213> Homo sapiens

<400> 131

Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr Ser Arg Leu Ile Ser Trp Arg Pro Gly Arg Ala Tyr Ser Arg Tyr Phe 25 Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe 40 Thr Val Pro Pro Trp Ala Asn Thr Ala Thr Ile Ser Gly Leu Lys Pro 55 60 Gly Val Asp Tyr Thr Ile Ala Val Tyr Ala Val Thr Phe Pro Pro Arg 70 75 Tyr Pro Leu Thr Glu Met Pro Ile Ser Ile Asn Tyr Arg Ala

<210> 132 <211> 94 <212> PRT <213> Homo sapiens

<400> 132

Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr 10 Ser Arg Leu Ile Ser Trp Arg Pro Gly Arg Thr Tyr Ser Arg Tyr Tyr 25 Arg Ile Thr Tyr Gly Glu Ala Gly Gly Asn Ser Pro Val Gln Glu Phe 40 Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro 55 Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Asp Lys Ser Gly 70 Thr Tyr Arg Tyr Asp Asp Pro Ile Ser Ile Asn Tyr Arg Thr 85

<210> 133 <211> 94 <212> PRT <213> Homo sapiens

<400> 133 Val Ser Asp Val Pro Arg Asp Leu Arg Val Val Ala Ala Thr Pro Thr 1 10 Ser Arg Leu Ile Ser Trp Arg Pro Ala Ser Asn Pro Ala Arg Tyr Tyr

**9**3

<210> 134 <211> 87 <212> PRT <213> Homo sapiens

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<210> 135 <211> 93 <212> PRT <213> Homo sapiens

<210> 136 <211> 94 <212> PRT <213> Homo sapiens



Gln Pro Leu Ile Cys Trp Ala Ser Pro Pro Met Trp Cys Arg Tyr Tyr Arg Ile Thr Tyr Gly Glu Ser Gly Gly Asn Ser Pro Val Gln Glu Phe 40 Thr Val Pro Pro Trp Ala Thr Ala Ala Ile Ser Gly Leu Lys Pro 55 Gly Val Asp Tyr Thr Ile Thr Val His Ala Val Thr Asp Glu Ser Trp 70 Ser Asp Arg Ser Met Asp Pro Ile Ser Ile Asn Cys Arg Thr

<210> 137 <211> 94 <212> PRT

<213> Homo sapiens

<400> 137

Val Ser Asp Val Pro Arg Asp Leu Lys Val Val Ala Ala Thr Pro Thr 10 Ser Arg Leu Ile Ser Trp Thr His Asp Asn Val Pro Ala Arg Tyr Tyr 25 30 Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Leu 40 Thr Val Pro Pro Trp Ala Ser Ile Ala Thr Ile Ser Gly Leu Lys Pro 55 Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Leu Tyr Thr Gly 70 75 Asn His Arg Pro Glu His Pro Ile Ser Ile Asn Tyr Arg Thr 85

<210> 138 <211> 93 <212> PRT <213> Homo sapiens

<400> 138 Val Ser Asp Val Pro Arg Asp Pro Val Val Ala Ala Thr Pro Thr 10 Ser Leu Leu Ile Ser Trp Tyr Arg His Thr Tyr Arg Asp Arg Tyr Tyr 25 Arg Val Thr Tyr Gly Glu Thr Arg Gly Asn Ser Pro Ile Arg Glu Phe 40 Thr Val Pro Pro Trp Ala Thr Ile Ala Thr Ile Ser Gly Leu Lys Pro 55 Gly Val Asp Tyr Thr Ile Ala Val Tyr Ala Val Thr Asp Ala Gly Tyr 70 80

Asp Val His Thr Lys Arg Pro Ile Ser Ile Asn Arg Thr 85

<210> 139 <211> 94 <212> PRT <213> Homo sapiens

<400> 139 Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr

5 10 Gly Leu Leu Ile Ser Trp Arg Asn Asn Gln Tyr Thr Pro Arg His Tyr 25 Gly Ile Thr Tyr Gly Glu Thr Gly Gly Lys Ser Pro Val Gln Glu Phe 40 Thr Val Pro Glu Leu Asn Pro Thr Ala Thr Ile Ser Arg Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gln Asn Gly Thr 70 75 Pro Arg Val Ile Tyr Gly Pro Ile Ser Ile Asn Tyr Arg Thr 85 <210> 140 <211> 89 <212> PRT <213> Homo sapiens <400> 140 Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Asn Val Pro Ile Ile Arg Tyr Tyr Arg Ile Thr Tyr Gly 20 25 Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Ala Pro 40 Lys Ala Ile Ala Thr Thr Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr 55 60 Ile Thr Val Tyr Gly Val Thr Ser His Arg Asn His Phe His Val Glu 70 Thr Pro Ile Ser Ile Asn Tyr Gln Ala 85 <210> 141 <211> 21 <212> PRT <213> Homo sapiens <400> 141 Asp Ala Pro Ala Val Thr Val Gly Ser Lys Ser Gly Arg Gly Asp Ser 1 1.0 Pro Ala Ser Ser Lys 20 <210> 142 <211> 21 <212> PRT <213> Homo sapiens <400> 142 Ala Ser Pro Pro Met Trp Cys Pro Trp Ala Thr Glu Tyr Leu Pro Glu 1 10 Trp Asn Met Thr Gln 20

<210> 143 <211> 21

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<212> PRT
<213> Homo sapiens
Asn Arg Ser Gly Leu Gln Ser Pro Trp Ala Ser Asp Lys Ser Asp Thr
Tyr Lys Tyr Asp Asp
            20
<210> 144
<211> 21
<212> PRT
<213> Homo sapiens
<400> 144
Arg Pro Thr Ser Asn Pro Pro Pro Trp Ala Ser Ala Gln Thr Gly His
1
                5
                                    10
                                                         15
His Leu His Asp Lys
            20
<210> 145
<211> 21
<212> PRT
<213> Homo sapiens
<400> 145
His Thr Glu Arg Ser Phe Pro Pro Trp Gly Ser Glu His Tyr Arg Asp
                5
                                    10
Thr Gly Thr Gly His
            20
<210> 146
<211> 21
<212> PRT
<213> Homo sapiens
<400> 146
Thr Thr Arg His Ser Pro Val Pro Trp Ala Thr Met Pro Thr Asn Trp
                5
                                    10
Arg Phe Pro His Arg
            20
<210> 147
<211> 21
<212> PRT
<213> Homo sapiens
<400> 147
Arg Pro Asn Pro Arg Leu Ser Gly Leu Phe Ser Pro Lys Glu Thr Ser
1
                5
                                    10
Asn Ile Phe Ile Ala
            20
```

<210> 148

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<211> 21
<212> PRT
<213> Homo sapiens
<400> 148
Ser Pro Pro Asn Asp Ala His Gly Ser Lys Ser Asp Gln Gln Ser Tyr
               5
1
                                  1.0
Thr Tyr Tyr Ser Asn
           20
<210> 149
<211> 21
<212> PRT
<213> Homo sapiens
<400> 149
Arg Thr Pro Ala Ser Pro His Leu Leu Trp Pro Pro Thr His Met Leu
1
                5
                                   10
Lys Pro Gln Ser Met
           20
<210> 150
<211> 21
<212> PRT
<213> Homo sapiens
<400> 150
Tyr Arg His Thr Tyr Arg Asp Pro Trp Ala Thr Asp Thr Gly Tyr Asp
1
                                   10
                                                       15
Val His Thr Lys Arg
           20
<210> 151
<211> 21
<212> PRT
<213> Homo sapiens
<400> 151
Asn Arg Ser Gly Leu Gln Ser Pro Trp Ala Ser Ser Asn Val Gly Arg
1
                                   10
Leu Asp Thr Arg Tyr
           20
<210> 152
<211> 21
<212> PRT
<213> Homo sapiens
<400> 152
Asp Thr His Asn Ala Tyr Asn His Pro Glu Val Asn His His Met Pro
1
                                   10
Leu Arg Ile Phe Gly
           20
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<210> 153
<211> 21
<212> PRT
<213> Homo sapiens
<400> 153
Arg Pro Thr Ser Asn Pro Pro Pro Trp Ala Ser Pro Val Tyr Pro Met
1
                                    10
                                                         15
His Ser Met Leu Ser
            20
<210> 154
<211> 21
<212> PRT
<213> Homo sapiens
<400> 154
Arg Asn Ile Tyr Pro Ile Ala Pro Trp Ala Ser Asp Lys Ser Asp Thr
                5
1
                                    10
                                                         15
Tyr Lys Tyr Asp Asp
            20
<210> 155
<211> 21
<212> PRT
<213> Homo sapiens
<400> 155
Asn Arg Ser Gly Leu Gln Cys Pro Trp Ala Ser Asp Gln Arg Asp Thr
1
                5
                                    10
                                                         15
Tyr Lys Tyr Asp Asp
            20
<210> 156
<211> 21
<212> PRT
<213> Homo sapiens
<400> 156
Arg Pro Gly Arg Thr Tyr Ser Pro Trp Ala Asn Phe Pro Thr Gly Tyr
1
                5
                                    10
                                                         15
Pro Leu Thr Glu Met
            20
<210> 157
<211> 21
<212> PRT
<213> Homo sapiens
<400> 157
Arg Pro Gly Arg Thr Tyr Ser Pro Trp Ala Asn Phe Pro Pro Gly Tyr
1
                 5
                                    10
                                                         15
Pro Leu Thr Glu Met
            20
```

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<210> 158
<211> 21
<212> PRT
<213> Homo sapiens
<400> 158
Met Thr Pro His Asn His Val Thr Gly Asn Ala Pro His His Gly His
                5
                                    10
1
Phe Asp Leu Glu Pro
            20
<210> 159
<211> 21
<212> PRT
<213> Homo sapiens
<400> 159
Thr Arg Thr Asn Ala Ser Thr Asn Phe Trp Trp Ser Pro Asp Glu Thr
                5
                                    10
Ser Ala Tyr Ser Glu
            20
<210> 160
<211> 21
<212> PRT
<213> Homo sapiens
<400> 160
Asn Arg Ser Gly Leu Gln Ser Pro Trp Ala Ser Asp Lys Ser Asp Thr
                 5
                                    10
Tyr Lys Tyr Asp Asp
            20
<210> 161
<211> 21
<212> PRT
<213> Homo sapiens
<400> 161
Arg Pro Gly Arg Thr Tyr Ser Pro Trp Ala Asn Tyr Thr His Ser Thr
1
                5
Pro Met Gln Asp Glu
            20
<210> 162
<211> 21
<212> PRT
<213> Homo sapiens
<400> 162
Arg Thr Pro Ala Ser Pro His Leu Leu Trp Pro Pro Thr His Met Leu
                5
1
                                    10
Lys Pro Gln Ser Met
```

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<210> 163
<211> 21
<212> PRT
<213> Homo sapiens
<400> 163
Thr Arg Thr Asn Ala Asn Thr Asn Asn Pro Pro Pro Asp Gly Ser Arg
               5
His Met Leu Thr Lys
           20
<210> 164
<211> 21
<212> PRT
<213> Homo sapiens
<400> 164
Asp Asn Ser Arg Pro Asn Thr Pro Trp Gly Ser Thr Ser Glu Cys His
                5
1
                                   10
                                                       15
Lys Leu Ser Ser Thr
           20
<210> 165
<211> 21
<212> PRT
<213> Homo sapiens
<400> 165
Asn Pro Asn Arg Ser Phe Ala Pro Trp Ala Ser Ala Gln Thr Gly His
1
               5
                                   10
His Leu His Asp Lys
           20
<210> 166
<211> 15
<212> PRT
<213> Homo sapiens
<400> 166
Ser Met Thr Pro Asn Trp Pro Pro Trp Ala Ser His Arg Asp Thr
               5
                                   10
<210> 167
<211> 21
<212> PRT
<213> Homo sapiens
<400> 167
Asp Thr His Asn Ala Tyr Asn His Pro Glu Val Ile His His Met Pro
1
                5
                                   10
Leu Arg Ile Phe Gly
            20
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<210> 168

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<211> 20
<212> PRT
<213> Homo sapiens
<400> 168
Ala Ser Pro Pro Met Trp Pro Trp Ala Thr Asp Glu Ser Trp Ser Asp
1
Arg Ser Met Asp
            20
<210> 169
<211> 15
<212> PRT
<213> Homo sapiens
<400> 169
Arg Pro Pro Ala Asp Leu Asn Pro Trp Gly Thr His Arg Asp Thr
                                    10
<210> 170
<211> 21
<212> PRT
<213> Homo sapiens
<400> 170
Glu Gln Ser Pro Thr Tyr Gly Gly Ser Lys Ser Ile Glu Lys Asp Arg
1
                                    10
Ile Pro Leu Phe Gly
            20
<210> 171
<211> 21
<212> PRT
<213> Homo sapiens
<400> 171
Arg Pro Gly Arg Thr Tyr Ser Pro Trp Ala Asn Phe Pro Pro Gly Tyr
1
                                    10
Pro Leu Thr Glu Met
            20
<210> 172
<211> 21
<212> PRT
<213> Homo sapiens
<400> 172
Arg Pro Gly Arg Thr Tyr Ser Pro Trp Ala Ser Asp Lys Ser Gly Thr
1
                                                         15
                                    10
Tyr Arg Tyr Asp Asp
            20
<210> 173
<211> 21
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<212> PRT
<213> Homo sapiens
<400> 173
Tyr Arg His Thr Tyr Arg Asp Pro Trp Ala Thr Asp Ala Gly Tyr Asp
1
                5
                                   10
                                                        15
Val His Thr Lys Arg
           20
<210> 174
<211> 21
<212> PRT
<213> Homo sapiens
<400> 174
Arg Thr Met Pro Val Thr Ala Pro Trp Ala Ser Ser Ala Thr Pro Ser
1
               5
                                   10
Arg Pro Asn Val His
           20
<210> 175
<211> 21
<212> PRT
<213> Homo sapiens
<400> 175
Arg Pro Gly Arg Ala Tyr Ser Pro Trp Ala Asn Phe Pro Pro Arg Tyr
                                                       15 -
1
                5
                                   10
Pro Leu Thr Glu Met
           20
<210> 176
<211> 21
<212> PRT
<213> Homo sapiens
<400> 176
Ser Pro Pro Asn Asp Ala His Gly Ser Lys Ser Asp Gln Gln Ser Tyr
                5
                                   10
Thr Tyr Tyr Ser Asn
            20
<210> 177
<211> 16
<212> PRT
<213> Homo sapiens
<400> 177
Ile Ile Ala Pro Lys Ala Ser His Arg Asn His Phe His Val Glu Thr
                5
<210> 178
<211> 21
<212> PRT
```

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<213> Homo sapiens
<400> 178
Arg Asn Asn Gln Tyr Thr Pro Glu Leu Asn Pro Gln Asn Gly Thr Pro
Arg Val Ile Tyr Gly
            20
<210> 179
<211> 21
<212> PRT
<213> Homo sapiens
<400> 179
Arg Pro Ala Ser Asn Pro Ala Pro Trp Ala Ser Ala Gln Thr Gly His
1
Arg Leu His Asp Lys
            20
<210> 180
<211> 21
<212> PRT
<213> Homo sapiens
<400> 180
Asn Arg Ser Gly Leu Gln Ser Pro Trp Ala Ser Pro Asn Val Gly Arg
1
Leu Asp Thr Arg Tyr
            20
<210> 181
<211> 21
<212> PRT
<213> Homo sapiens
<400> 181
Asn Arg Ser Gly Leu Gln Ser Pro Trp Ala Ser Asp Glu Ser Asp Thr
Tyr Lys Tyr Asp Asp
            20
<210> 182
<211> 21
<212> PRT
<213> Homo sapiens
<400> 182
Thr His Asp Asn Val Pro Ala Pro Trp Ala Ser Leu Tyr Thr Gly Asn
                 5
1
                                     10
His Arg Pro Glu His
            20
<210> 183
<211> 21
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<212> PRT
<213> Homo sapiens
<400> 183
Arg Ser Gly Asn Arg Thr Thr Pro Trp Ala Thr Thr His Asn Ser Thr
1
                 5
                                    10
Ala Gln Pro Glu Tyr
            20
<210> 184
<211> 21
<212> PRT
<213> Homo sapiens
<400> 184
Asn Arg Ser Gly Leu Gln Ser Pro Trp Ala Ser Ser Asn Val Gly Arg
1
                                    10
                                                        15
Leu Asp Thr Arg Tyr
            20
<210> 185
<211> 21
<212> PRT
<213> Homo sapiens
<400> 185
Arg Asn Ala Lys Asp Pro Gly Pro Trp Gly Thr Ala Thr Asn Pro Gly
                5
1
                                    10
Pro Thr Gln His Arg
            20
<210> 186
<211> 94
<212> PRT
<213> Bovis taurus
<400> 186
Val Ser Asp Val Pro Arg Asp Leu Glu Val Ile Ala Ala Thr Pro Thr
1
                                    10
Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr Tyr
                                25
Arg Ile Thr Tyr Gly Glu Thr Gly Gly Ser Ser Pro Val Gln Glu Phe
                            40
Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser Gly Leu Lys Pro
                        55
Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg Gly Asp
65
                    70
Ser Pro Ala Ser Ser Lys Pro Val Ser Ile Asn Tyr Arg Thr
                85
<210> 187
<211> 92
<212> PRT
<213> Rattus norvegicus
```

```
<400> 187
Val Ser Asp Val Pro Arg Asp Leu Glu Val Ile Ala Ser Thr Pro Thr
                                    10
Ser Leu Leu Ile Ser Trp Glu Pro Ala Val Ser Val Arg Tyr Tyr Arg
            2.0
                                2.5
                                                     30
Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe Thr
        35
                            40
Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Asn Ile Lys Pro Gly Ala
                        55
Asp Tyr Thr Ile Thr Leu Tyr Ala Val Thr Gly Arg Gly Asp Ser Pro
                    70
                                        75
Ala Ser Ser Lys Pro Val Ser Ile Asn Tyr Gln Thr
               85
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<211> 92
<212> PRT
<213> Mus musculus
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Val Ser Asp Ile Pro Arg Asp Leu Glu Val Ile Ala Ser Thr Pro Thr
1
Ser Leu Leu Ile Ser Trp Glu Pro Ala Val Ser Val Arg Tyr Tyr Arg
            20
                                25
                                                     30
Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe Thr
        35
                            40
Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Asn Ile Lys Pro Gly Ala
                        55
Asp Tyr Thr Ile Thr Leu Tyr Ala Val Thr Gly Arg Gly Asp Ser Pro
                    70
                                        75
Ala Ser Ser Lys Pro Val Ser Ile Asn Tyr Lys Thr
               8.5
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<211> 40
<212> PRT
<213> Oryctolagus cuniculuc
<220>
<221> VARIANT
<222> 24
<223> Xaa = Any Amino Acid
<400> 189
Val Ser Asp Val Pro Arg Asp Leu Glu Val Ile Ala Ser Thr Pro Thr
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1
                5
Ser Leu Leu Ile Ser Trp Glu Xaa Pro Ala Val Thr Val Arg Tyr Tyr
Arg Ile Thr Tyr Gly Glu Thr Asn
<210> 190
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<213> Gallus gallus

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                5
                                    10
Leu Glu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr Tyr Arg
                                25
Ile Thr Tyr Gly Glu Thr Gly Gly Ser Ser Pro Val Gln Glu Phe Thr
                            40
Val Pro Gly Thr Met Ser Ala Thr Ile Thr Gly Leu Lys Pro Gly Val
                        55
Asp Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg Gly Asp Ser Pro
                    70
                                        75
Ala Ser Ser Lys Pro Val Thr Val Thr Tyr Lys Thr
<210> 191
<211> 93
<212> PRT
<213> Xenupus laevis
<400> 191
Val Ser Asp Val Pro Thr Asp Leu Glu Val Thr Ser Ser Ser Pro Asn
                                    10
Thr Leu Thr Ile Ser Trp Glu Ala Pro Ala Val Ser Val Arg Tyr Tyr
           20
                                25
Arg Ile Thr Tyr Ser Gln Thr Gly Gly Gly Pro Glu Lys Glu Phe Thr
```

35 40 45
Val Pro Gly Thr Ser Asn Thr Ala Thr Ile Arg Gly Leu Asn Pro Gly

Val Ser Tyr Thr Ile Thr Val Tyr Ala Val Thr Gly Arg Gly Asp Ser

60

55

Pro Ala Ser Ser Lys Pro Leu Thr Ile Ile His Lys Thr

70

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<210> 193 <211> 67 <212> PRT <213> Equus caballis <400> 193 Ala Asp Ala Pro Ser Leu Phe Leu Ala Thr Thr Pro Ser Leu Leu Ile 1 10 Ser Trp Gln Pro Ala Ile Thr Gly Tyr Ile Ile Lys Tyr Gly Ser Glu 25 Val Val Pro Gly Val Thr Ala Thr Ile Thr Gly Leu Pro Gly Thr Glu 40 Tyr Thr Ile Gln Val Ile Ala Ile Lys Asn Gln Lys Ser Leu Ile Gly 55 60 Lys Thr Glu 65 <210> 194 <211> 70 <212> PRT <213> Homo sapiens

<210> 195 <211> 69 <212> PRT <213> Sus scrofa

<400> 195

Val Ser Pro Pro Lys Asp Leu Val Thr Val Thr Thr Val Asn Leu Ala 1 5 10 15

Trp Asp Met Val Thr Tyr Leu Ile Val Tyr Thr Pro Thr His Glu Gly 20 25 30

Glu Met Gln Phe Val Pro Gly Asp Gln Thr Ser Thr Thr Ile Arg Leu 35 40 45

Pro Gly Val Glu Tyr Phe Ile Arg Val Phe Ala Ile Leu Asn Lys Lys 50 55 60

Ser Val Ser Ala Val

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His Ala Val Ser Ala Ser Ile Ala Asn Thr Gly 65

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<213> Homo sapiens <400> 197

Thr Ser Val Thr Val 65

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<210> 199 <211> 66 <212> PRT <213> Gallus gallus

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115